

Trying to measure the use of unallocated address space

...and some other news

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Overview

- ▶ What's the problem?
- ▶ What does this technique attempt to measure?
- ▶ What does it not measure?
- ▶ What are the results?
- ▶ What else?
- ▶ IANA News

What's the problem?

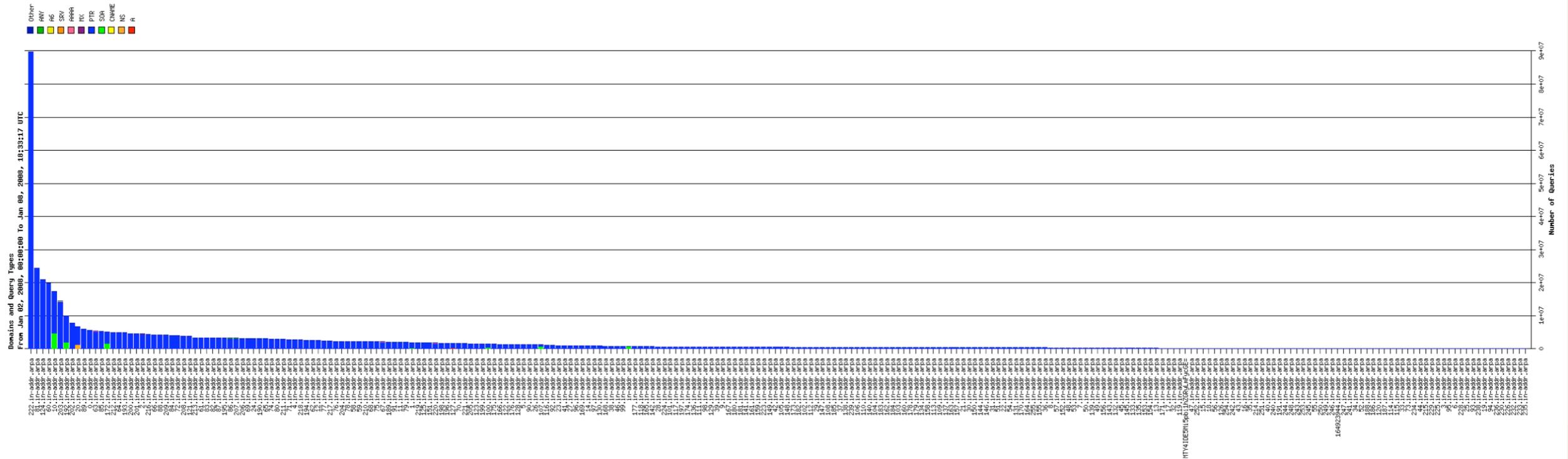
- ▶ All unallocated unicast space will be allocated
- ▶ Some networks and services already use this space
- ▶ <http://www.uknof.org.uk/uknof8/Vegoda-Unallocated.pdf>

What does this technique attempt to measure?

- ▶ PTR queries received at root DNS servers where the IPv4 address is not part of an allocated /8

What does it not measure?

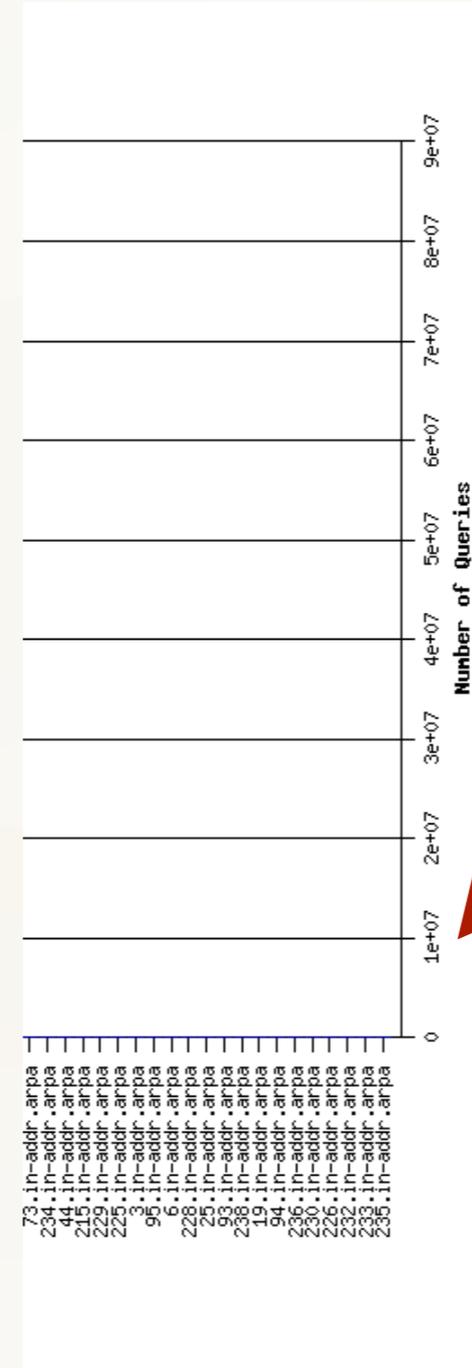
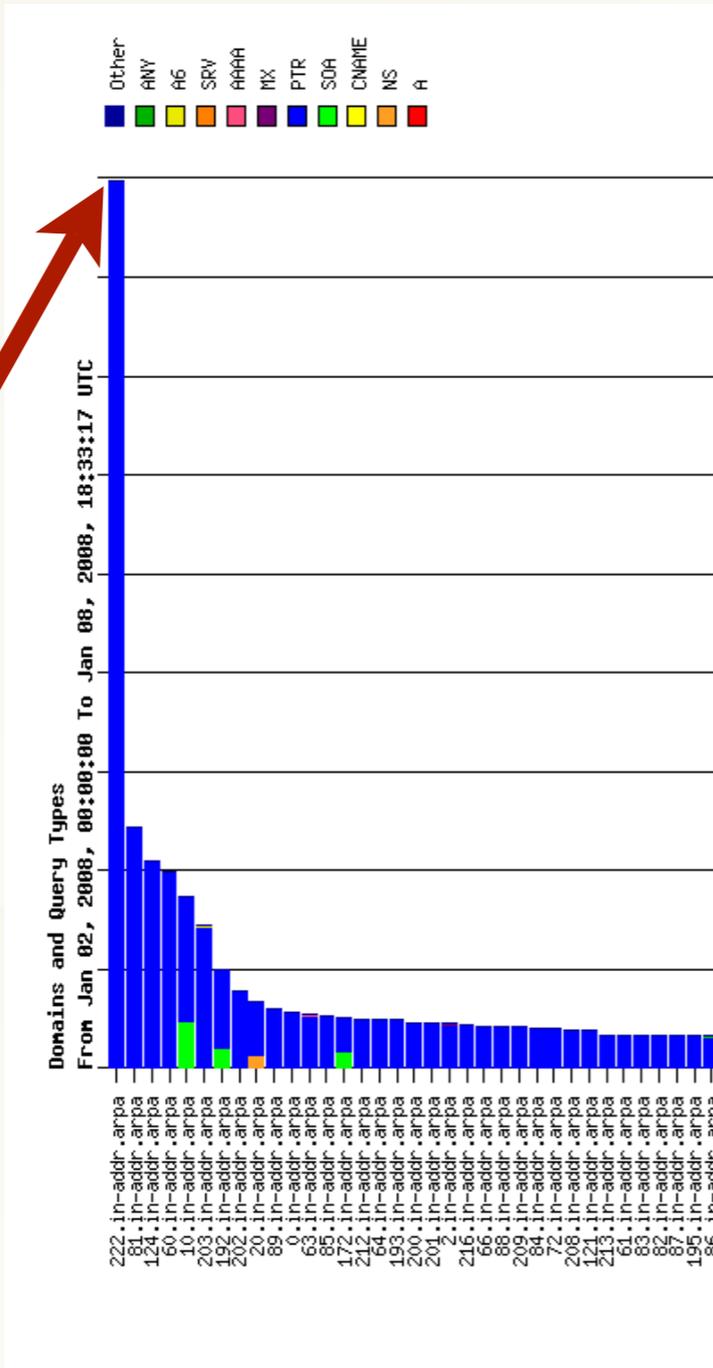
- ▶ Usage by otherwise well run sites using unallocated space
 - ▶ Split-horizon DNS
 - ▶ Egress filters



What are the results?

- ▶ Let's look at the distribution for all /8s

222/8

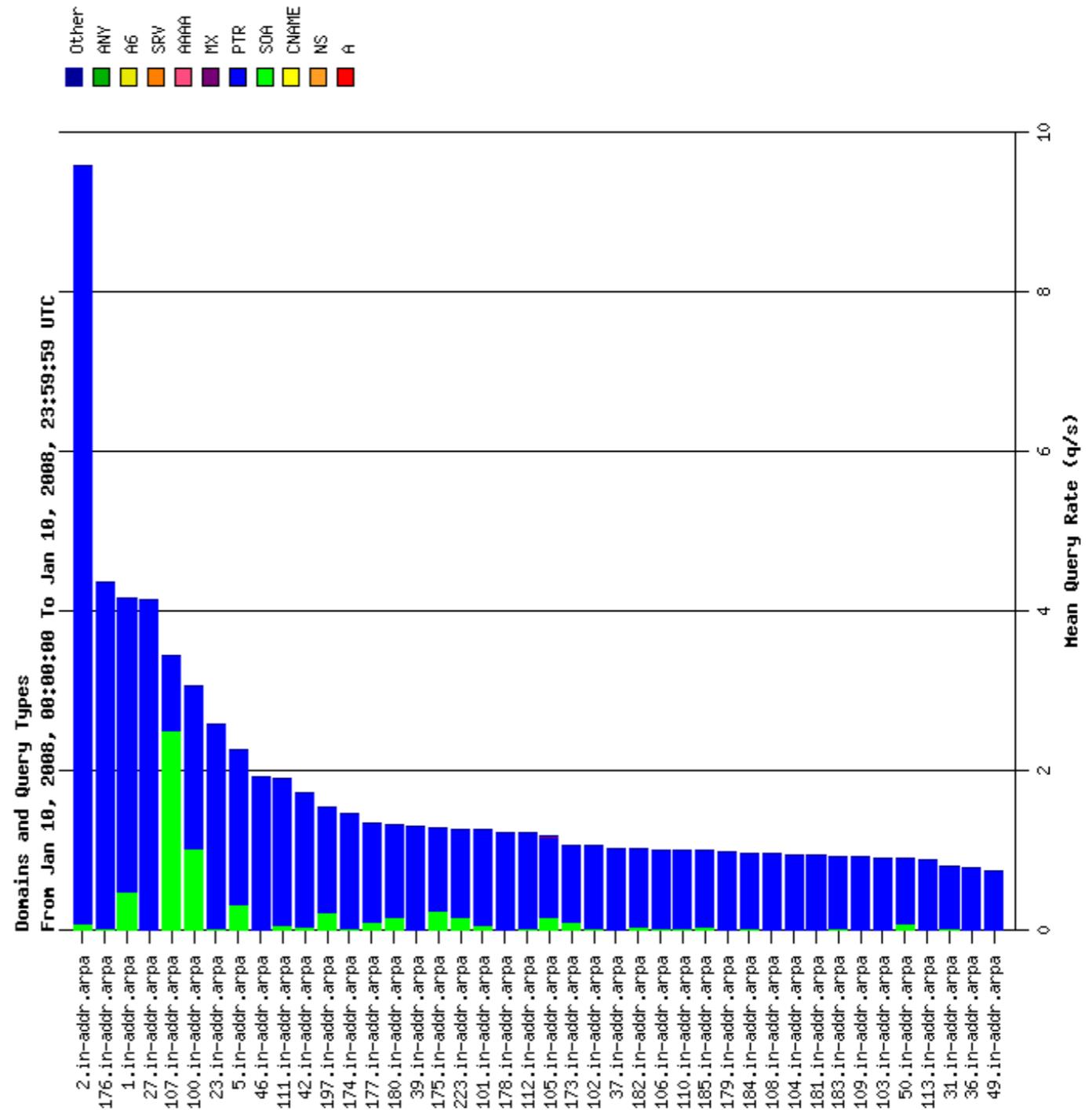


10 million queries

Let's take a closer look...

Top 10 Countdown

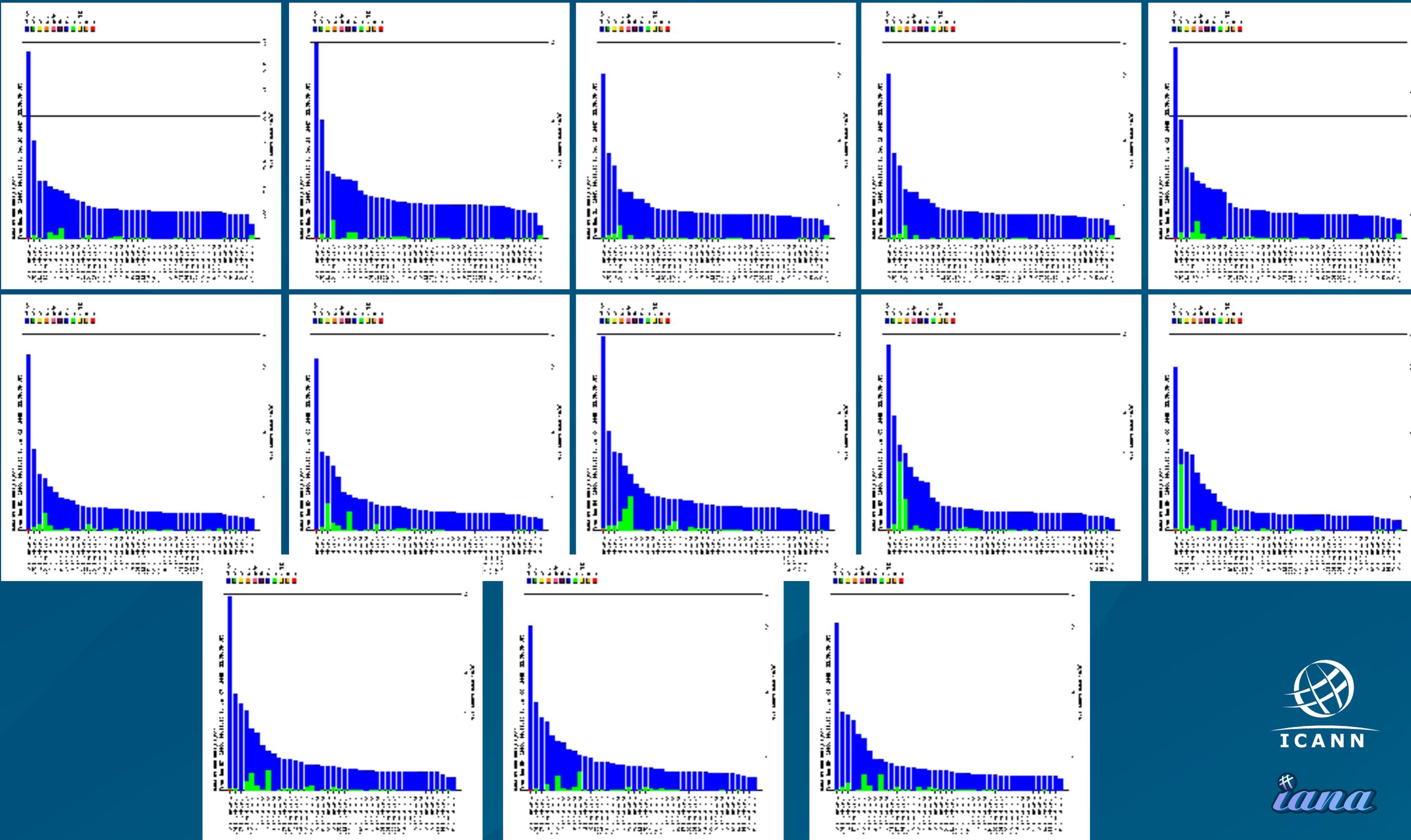
1. 2.in-addr.arpa
2. 176.in-addr.arpa
3. 1.in-addr.arpa
4. 27.in-addr.arpa
5. 107.in-addr.arpa
6. 100.in-addr.arpa
7. 23.in-addr.arpa
8. 5.in-addr.arpa
9. 46.in-addr.arpa
10. 111.in-addr.arpa



Let's remove the allocated /8s and look at the mean QPS last Thursday 10 January

How typical was Thursday 10 January?

- ▶ It looks quite typical based on these daily graphs



What else?

- ▶ IPv6 deployment measurement
 - ▶ Same technique using OARC data
 - ▶ Measure NTP queries coming over IPv6 transport

(((BREAKING NEWS)))

- ▶ IPv6 for root DNS servers
 - ▶ F, H, K and M
 - ▶ 4 February 2008

Questions & Answers

